Commission on the 21ST Century Economy

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To: Chair and Commissioners

From: Mark Ibele, Staff Director, Commission on the 21st Century Economy
Phil Spilberg, Chief, Financial Research, Department of Finance

Date: March 16, 2009

Re: Additional Information on (i) Sales and Use Tax Alternatives and (ii) Tax Burden Distribution

This memorandum is in response to a request for additional information regarding staff's presentation to the Commission at its March 10 in Berkeley. The first section of this memorandum responds to the request for further information regarding the types of services included and assumptions made for the various Sales and Use Tax (SUT) alternatives. The second section of the memorandum provides additional explanation of changes in the distribution of the tax burden resulting from shifts in the state's tax structure and the distribution of income.

I. Sales and Use Tax Alternatives

At its hearing on March 10 in Berkeley, Commission members asked for additional information regarding several of the alternatives presented by staff. All the alternatives presented represent the change from the current SUT tax treatment of purchases and the resulting revenues for 2009.

- **Alternative 2—Extend SUT to Limited Selection of Services.** In this simulation, the SUT was extended to the services shown on Attachment A. As staff noted in the presentation, of the $6.2 billion that would be generated by an extension of the SUT, about $5.3 billion would be the result of household purchases and about $900 million by business purchases.

- **Alternative 3—Extend SUT to Expanded Array of Services.** In this simulation, the SUT was extended to the services shown on Attachment B. This simulation included all those services taxed in simulation 2, plus many additional services. In this simulation, business purchases were specifically excluded. As noted by staff, this business exclusion would be difficult to implement at the time of the actual purchase of the service, although some other mechanism may be available to achieve the same effect. In this simulation, $21.2 billion would be generated by an extension of the SUT.

- **Alternative 4—Exempt Business Intermediate Purchases.** Under current law, *de minimis* amounts of business services are taxed while business purchases of tangible personal property are subject to taxation. Business purchases of tangible personal property consist of (a) depreciable investment purchases (such as machinery) and (b) non-depreciable intermediate purchases (such incidental supplies and materials) For this simulation, exempted business intermediate purchases, as previously defined, are shown in Attachment C and identified based on the type of business making the purchase. In this simulation, revenue would be reduced by approximately $900 million.

- **Alternative 5—Exempt Business Investment Purchases.** Under current law, business purchases of capital equipment are fully subject to the SUT. This simulation would fully exempt such purchases from the SUT and result in a reduction in revenues of approximately $4.8 billion. Capital purchases that would be exempted under this simulation are shown in Attachment D.

II. Tax Burden Distribution

At the March 10 meeting of the Commission, a staff presentation showed that state tax burden inequality has increased over time. The discussion below provides a further explication of "tax burden inequality."

Measures of Inequality

Economists refer to the degree of inequality as concentration. For example, if the top 10% of the population were to account for 10% of tax burden, top 15% were to account for 15%, top 20% were to account for 20%, and so forth, economists would define this distribution to be perfectly equal. If, however, the top of the population distribution were to account for more than the same share of tax burden, economists would say that this distribution is unequal.

There are many ways to measure the degree of inequality. One is the Concentration Index. To calculate a concentration index for a particular metric, the population is sorted with the highest value first and the lowest value last. The concentration index would measure the proportion of the population value for the top X% of the population, where X could be the top 1%, 5%, 10%, 20%, etc.[1]

Concentration indices have two distinct advantages over other measures. First, they are intuitively easy to interpret. It is easy, for example, to grasp the significance of, for example, the top 10% of taxpayers accounting for 50% of total tax. (In contrast, the interpretation of a log variance of 4.2 is less readily apparent.) Second, unlike other measures, concentration indices do not require information for the entire distribution—rather the component of the distribution of interest is sufficient. Because of these advantages, we have used concentration indices to measure inequality.

California Tax Burden Inequality

The change in the California state tax burden inequality can be separated into two components:

1. Income inequality.
2. Progressivity of the tax structure.

- **Income inequality.**

For the same degree of tax progressivity, increases in income inequality result in increases in tax burden inequality. This principle can be demonstrated with an example: Consider a proportional tax system, where the tax is the same proportion of each taxpayer's income. For this tax system, an increase in income inequality from a concentration index of 20% to 30% would result in an increase in the tax concentration index from 20% to 30%. For a tax system with a progressively increasing rate, an in increase income inequality would result in

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[1] There are many measures of inequality. Besides the concentration index, some of the others are: Gini coefficient, Herfindahl ratio, Pareto slope, Hart index, variance of logarithms, etc. Fortunately, in most instances, inequality coefficients generate similar relative values, so the use of a particular coefficient is not critical.

a greater increase in tax concentration. Figure 1 below (from the March 10 Commission hearing) shows that income inequality has increased during the time period 1980-2006, which in and of itself has increased tax burden concentration.

FIGURE 1

Personal Income Tax (PIT)
Adjusted Gross Income for the Top 10%
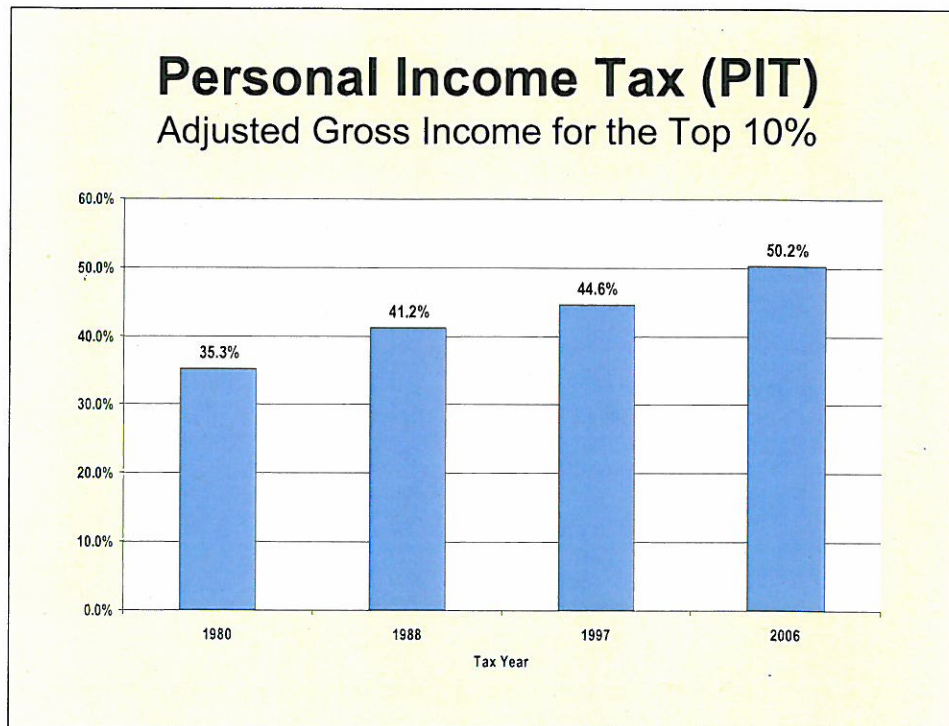
- **Change in the Progressivity of the Tax Structure**

The second reason for the change in state tax burden inequality is the shift in the state's tax structure. This concept can be explained in Figure 2 below (from the March 10 Commission hearing). The figure examines the progressivity of the tax structure with respect to revenue sources with the largest changes in General Fund shares. It shows that, from 1950 to 2008, the share of the sales and use tax (SUT) dropped from 59.4% to 26.3%. During the same period, the personal income tax (PIT) general fund share increased from 11.3% to 53.4%.

As staff noted in the March 10 hearing (and indicated in the bottom of the figure), the SUT is far less progressive than the PIT. In 2006 the top 10% accounted for 78.5% of PIT tax burden and only 25.3% of SUT tax burden. The right side of the figure shows the weighted average for the combined SUT/PIT tax burden. It combines the tax burden distributions from the bottom of the chart with the relative shares of the SUT and PIT for discrete periods during1950 through 2008. The index shows that the shift in relative General Fund shares from the SUT to the PIT during this time-span increased tax progressivity.

The calculations embedded in the figure below isolate the effect of changes in relative SUT and PIT shares on the tax burden distribution by assuming the 2006 tax year income distribution. The figure shows that if the shares of SUT and PIT in 2006 were as they were in 1950-51, SUT and PIT combined would have generated a top 10% concentration index of 33.8%. If instead the shares of SUT and PIT were as they were in 2007-08, the top 10% concentration index in 2006 would have been 60.9%.

FIGURE 2

3

Tax Burden Distribution
Changes in Progressivity Due to Changes in General Fund Shares of the Personal Income Tax (PIT) and the Sales and Use Tax (SUT)

	Percentage of GF Revenue for Top 10%			
				SUT + PIT
				Hypothetical Top 10% for 2006
	SUT	PIT	SUT + PIT	Tax Year
1950-51	59.4%	11.3%	70.7%	33.8%
1970-71	40.3%	28.2%	68.5%	47.2%
1980-81	37.4%	35.4%	72.8%	51.2%
1990-91	35.2%	44.6%	79.8%	55.0%
2007-08	26.3%	53.4%	79.7%	60.9%

2006 Tax Burden share of the top 10%

SUT - 25.3%

PIT - 78.5%

Figures I and II show that the state tax burden concentration has increased over time. This increase in inequality has occurred because income has become more unequal, and because the tax system has shifted away from the SUT and toward the PIT, increasing progressivity.